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ABSTRACT

A four-phase process was used to develop the Maryland Plan: (1) goal-identification, (2) analysis of goal-related behavior and experiences, (3) integration of these experiences into a living-learning involvement with the industrial art curriculum content, and (4) evaluation. The plan made use of the behavioral analysis process as a technique to provide precision and consistency to the goals and projected outcomes, and for evaluation. The plan is dedicated to three basic ideas in program planning: (1) Optimum learning depends on student involvement and interaction with the study area, (2) The industrial arts laboratory needs life and reality, and (3) First-hand knowledge is essential. Under the plan the teacher is perceived as a manager of education, who inspires, encourages, and evaluates. Specific examples and charts illustrate the development and usefulness of the plan. (CD)

ED034852

The Maryland Plan

for

Industrial Arts at the Junior High School

and the

BEHAVORIAL TASK ANALYSIS APPROACH

by

Dr. Donald Maley
Professor and Head

Industrial Education Department
University of Maryland

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Presented at
American Industrial Arts Association Convention
Las Vegas, Nevada *April, 1969*

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A presentation at the National Convention of the Industrial Arts Association held at Las Vegas, Nevada in April, 1969..

The Maryland Plan and the Behavioral Task Analysis Approach

The substance of this presentation deals with a technique for establishing a high degree of relevance between objectives, program, and outcomes.

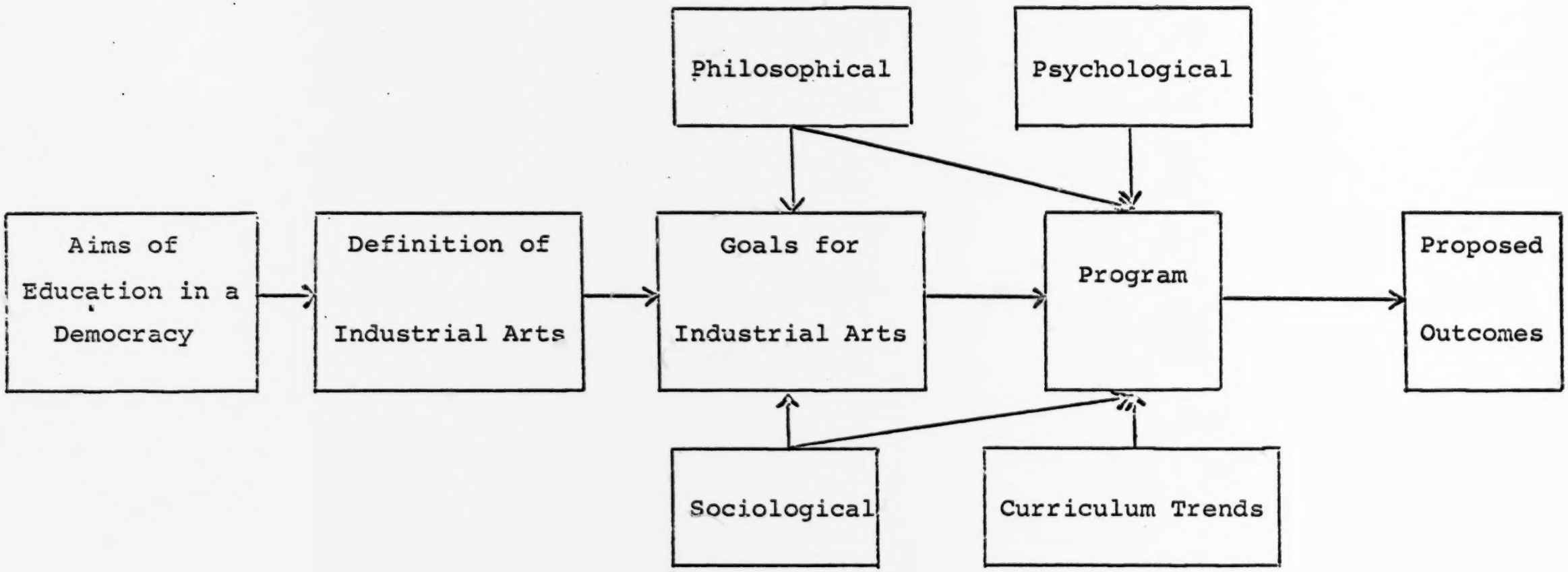
One need not belabor the obvious fact that a great deal of education suffers from a lack of relationship between goals, program, and outcomes. A simple test of the validity of this statement can be made by examining the numerous courses of study that are developed annually to determine what relationship exists between the three factors (goals, program, projected outcomes).

The "behavioral analysis approach" was not the starting point for the development of the Maryland Plan for Industrial Arts at the junior high school level. The starting points for the Maryland Plan involved broad and highly related areas.

1. The philosophical which included --

   -- a concept of the function and role of education in a democracy dominated by industry and technology,

The "Maryland Plan" Development Model



-- a concept of the relationship between the school and the community,
-- a concept of the importance of Industrial Arts in the present and future society,
-- a unified and organized concept of the school itself,
-- the concept of the relationship between the student and the educational enterprise, and
-- the concept of man as a total organism as opposed to a dis-jointed matrix of independent functions.

2. The psychological area as a starting point included--
-- understandings related to the nature of the student,
-- theories governing man's behavior,
-- the developmental tasks of the group to be served,
-- concepts of learning involving such factors as motivation, individual differences, interests, involvement, aspiration, self-concept, and many more.

3. The sociological base as another starting point included--

   -- the role of man in a technological and industrial society,

   -- the responsibilities of man and his requirements for effective participation in the society,

   -- the conditions of work and living in the present and future,

   -- the impact of change and the capability of dealing with change,

   -- the concept that education has a responsibility to a total society, and

   -- the concept that education must help man in his dealing with automation, cybernetics, production, computerization, urbanization, employment, unemployment, leisure, pollution, labor-management problems, as well as the problem of a communications gap in a society dominated by industry and technology.

4. The curriculum trends with emphasis on--

   -- student inquiry

   -- an organismic psychology

-- a zest for learning

-- special reinforcement

-- teaching as a creative art with a scientific base

-- a greater involvement and interaction of the student with the content

The "behavioral analysis" approach does not determine whether one studies metals, plastics, organization, automation, occupations, pollution, processes, or products. This is accomplished by the profession, or by definition, or through a content analysis in a curriculum study.

The Maryland Plan made use of the "behavioral analysis" process as a technique to provide a means whereby the goals and projected outcomes would have a level of precision and consistency, and that these elements would provide an endless series of clues about the kind of a program required to bring about the accomplishment of the goals and the fulfillment of projected outcomes.

Secondly, the technique was used to provide a system for describing possible outcomes that could be observed and at the same time have a one-to-one relationship with the projected

goals. This step was vital since its application dealt with that very important process called evaluation.

The fact that the Maryland Plan was built with special provisions for such factors as individual differences, inquiry, a positive self identity, content interaction, content-individual interaction, role playing, and a host of life-simulation situations as well as new and different forms of student involvement in group processes, caused many sincere individuals to raise the question as to how the student is evaluated.

The "observable behavioral" process builds its case on what the student does, and the emphasis should be for a constant effort to strengthen that involvement.

Many educators discuss "behavioral analysis" as a one-way-street or strictly from the point of view regarding what the student does. This situation has a basic short-coming which fails to recognize that what the teacher does has a significant effect upon what the student does -- or is even permitted to do.

This idea led the Maryland Plan into a different kind of a role for the teacher. He was no longer looked upon as a dispenser of facts or the sole possessor of all knowledge. He was conceived as a manager of education, -- a facilitator, one who

inspires, encourages, and evaluates. His main task is to get the best out of people and in helping them to grow.

An effort will be made in the brief time allotted to discuss the behavioral task analysis as it relates to the goals, program, and projected outcomes for the Maryland Plan.

The procedure by which the Maryland Plan was developed involved a four-step (or phase) process.

1. There was an identification of goals to be attained.
2. An analysis was made of the behaviors and experiences that related to the accomplishment of the goals.
3. The third phase involved the development of a meaningful integration of the behaviors or experiences into a living-learning involvement with the curriculum content.
4. The fourth phase involved an evaluation process using the behavioral analysis technique to determine the attainment of goals.

This four-step process is similar to that described in Bloom's Taxonomy of Educational Objectives in a discussion of "Educational Objectives and Curriculum Development".

Goals or Objectives. The Maryland Plan was developed after a thorough study of the overall goals of education and

an examination of the relationship of Industrial Arts to those goals. A modified version of Gordon Wilbur's definition of Industrial Arts was used in this instance.

The result of this examination led to the establishment of two different points of focus in setting up the general statement of goals. These two emphases were -- (a) the goals that related to the interpretation and implementation of the definition, and (b) the goals that relate directly to the growth and development of the person.

The behavioral analysis technique as applied to the statement of goals has the distinct advantage of re-casting the generalizated forms of objectives into specific behaviors. The movement from ambiguity to a position of clarity and concreteness was an obvious resultant. Goals are normally stated in broad general terms that provide a base from which further clarification and delineation may be made.

As an example the Maryland Plan might use such a general statement as --

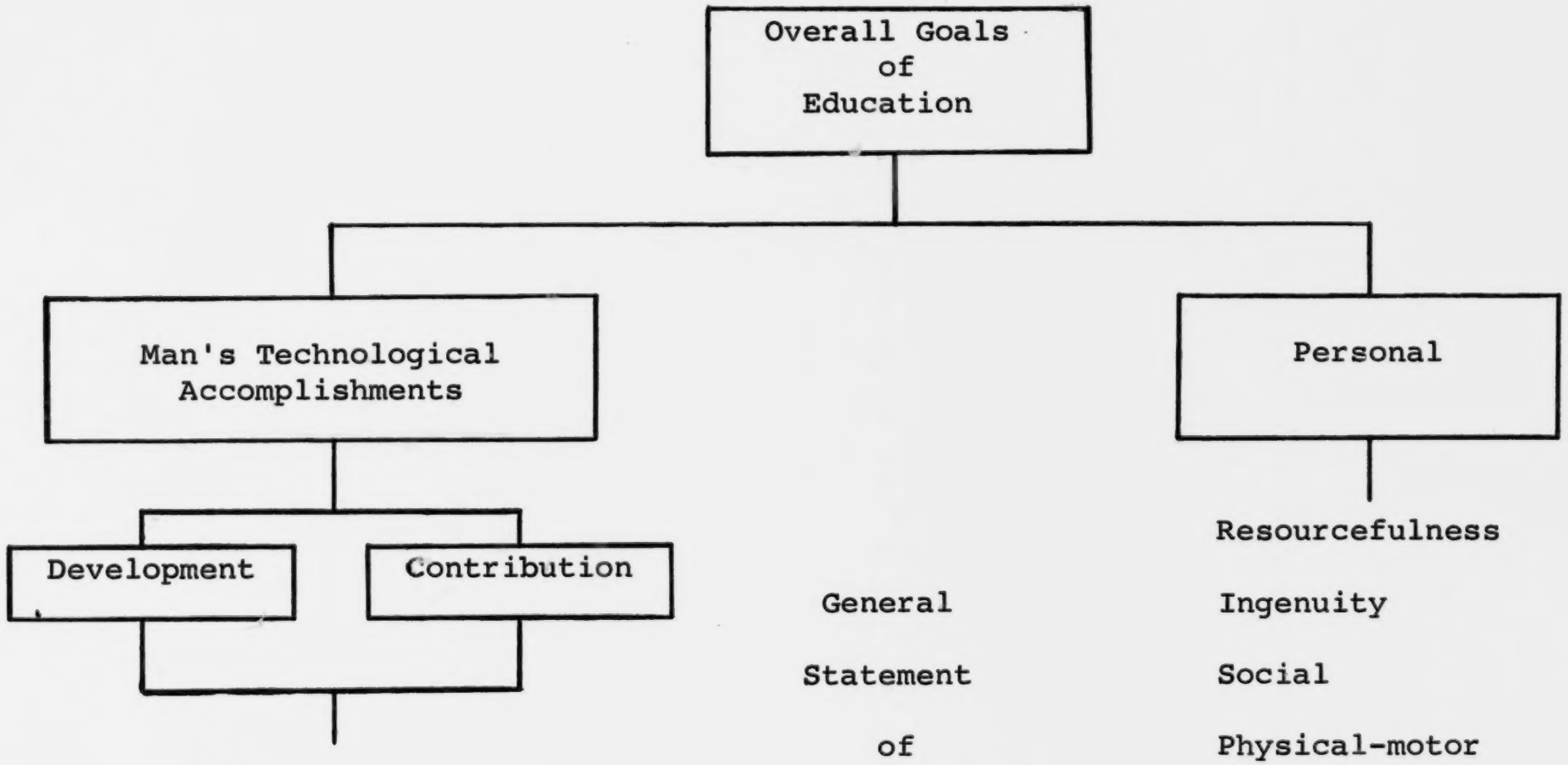
> "To develop the student's knowledge of and understanding about the organization of contemporary industry."

Such a statement would have considerable value in discussions or interpretations of the program with lay persons, school

Phase I

AN IDENTIFICATION OF GOALS PERTINENT TO THE AREA OF INDUSTRIAL ARTS

Grade 7 - The Anthropological Unit Approach



General Statement of Goals

Tools

Machines

Power

Energy

Communication

Transportation

Resourcefulness

Ingenuity

Social

Physical-motor

Interests

Self identity

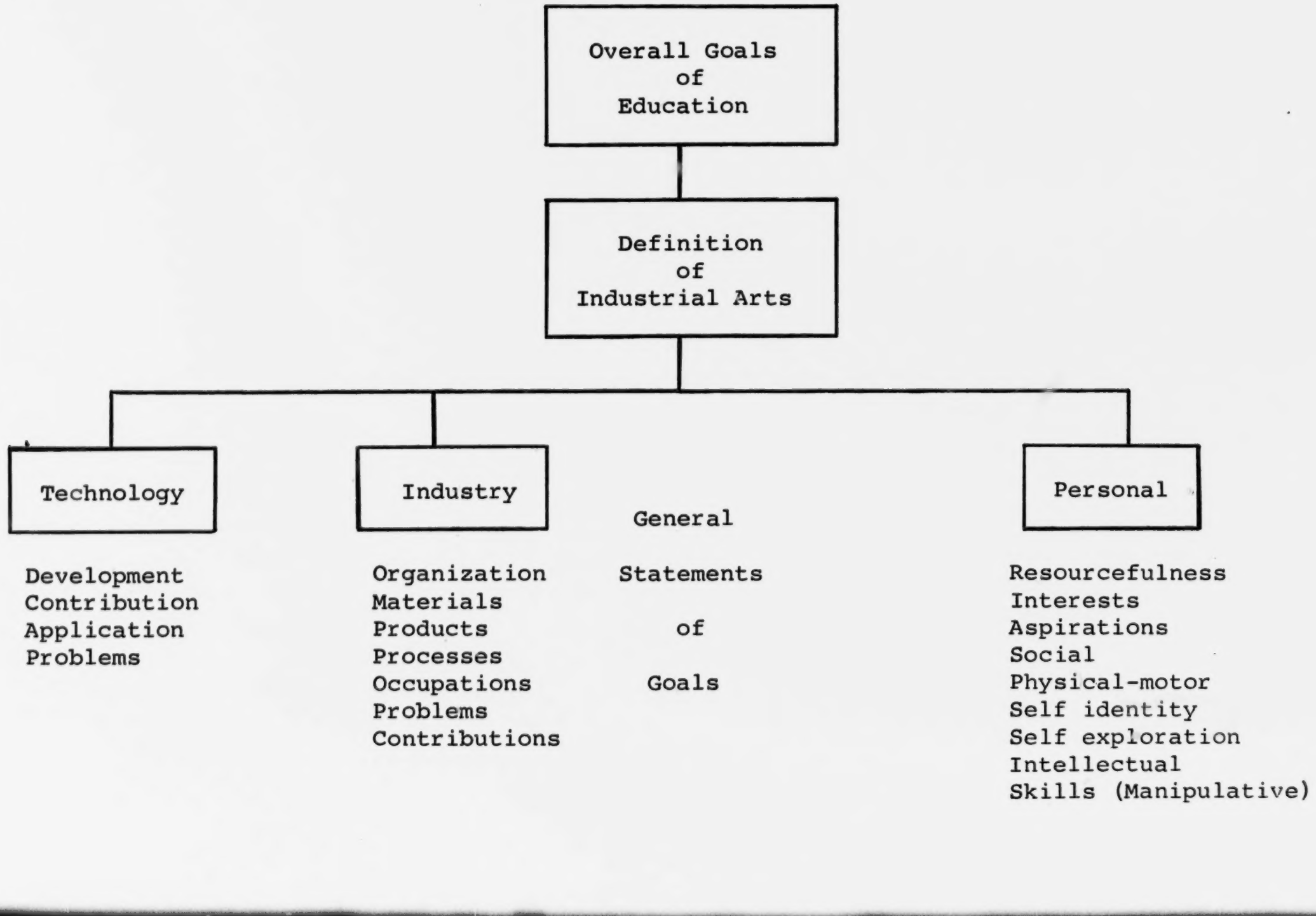
Self exploration

Intellectual

Skills (manipulative)

Phase I

THE IDENTIFICATION OF GOALS PERTINENT TO THE AREA OF INDUSTRIAL ARTS
(Grades 8, 9)



board members, and administrators. Also, a series of such general objectives would serve as a base from which program developers or teachers could identify specific behaviors related to the accomplishment of the goals.

Phase II involved the analysis of the general statement of objectives to determine the behaviors or experiences that relate to the accomplishment of the goals.

Since there are several forms or kinds of organization in industry, let us take the "organization of management personnel" as an area for the development of our example.

As a general statement of goal, it might appear as follows:

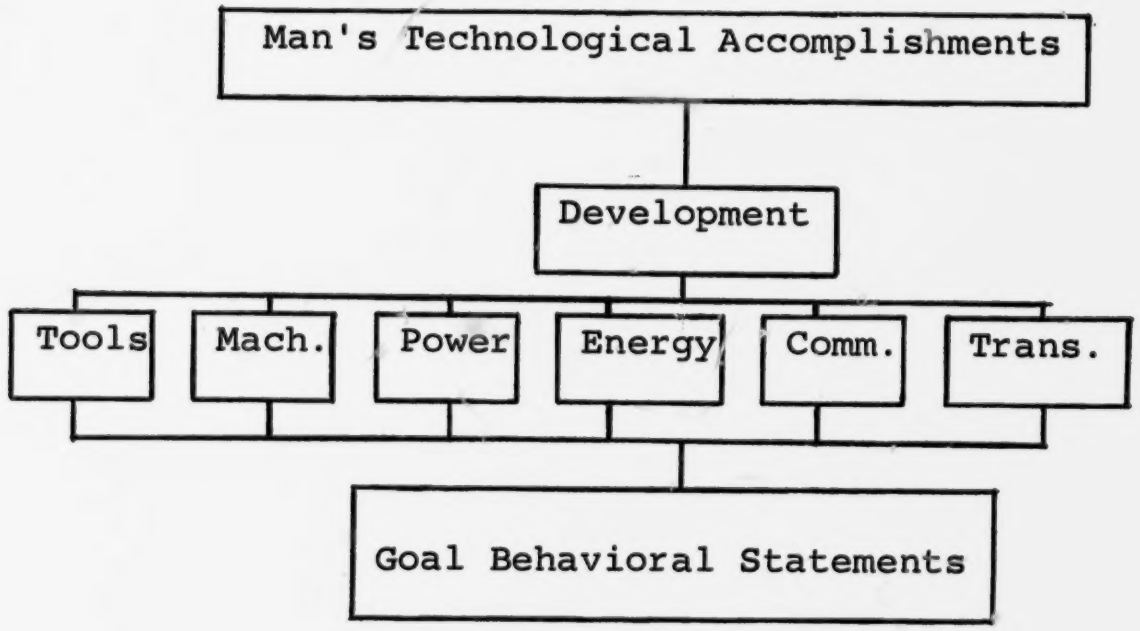
> "To develop the student's knowledge of and understanding about the organization of the management personnel in industry."

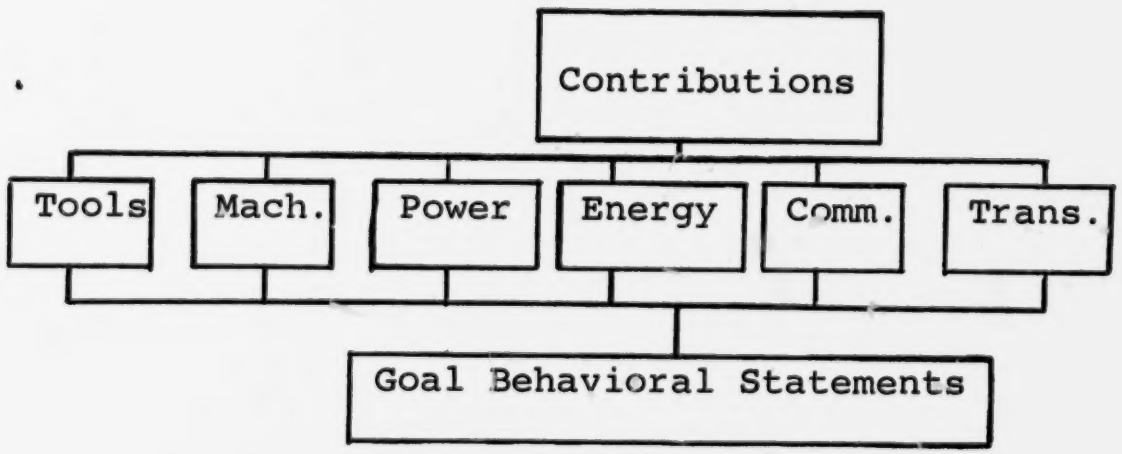
The goal behavioral statements that could be identified with the above general statement include --

1. The student will construct a line and staff organization chart for use in a class group study of a major industry.
2. The student will compare different forms of personnel or production organization charts.
3. The student will use an organization chart in the directing of a line production experience or major industry study.
4. The student will describe the organization (personnel, financial, production, etc.) of a particular contemporary industry.
5. The student will apply the principles of good organization in his leadership role in the class.

Phase II

ANALYSIS OF BEHAVIORS OR EXPERIENCES THAT RELATE TO THE ACCOMPLISHMENT OF THE GOALS





Personal

Resourcefulness

-- Behavioral Goals

Physical - Motor

-- Behavioral Goals

Social

-- Behavioral Goals

Self identity

-- Behavioral Goals

Self exploration

-- Behavioral Goals

Intellectual

-- Behavioral Goals

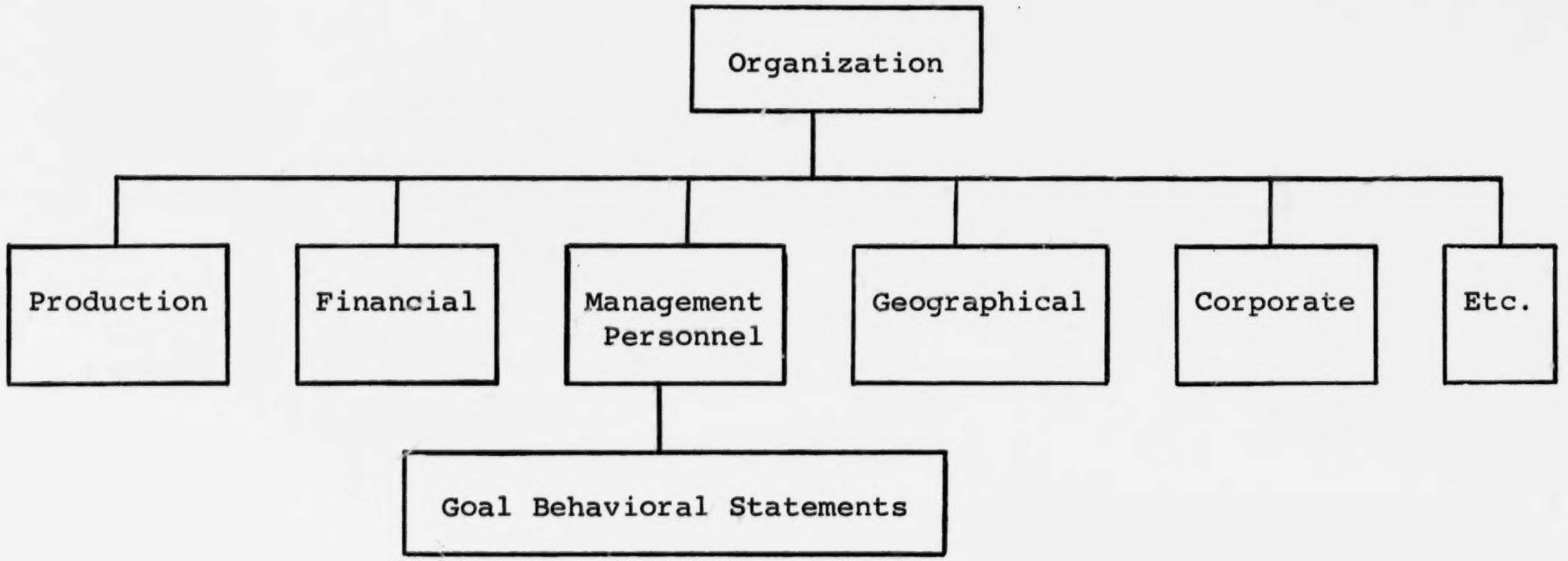
Skills (Manipulative)

-- Behavioral Goals

Etc.

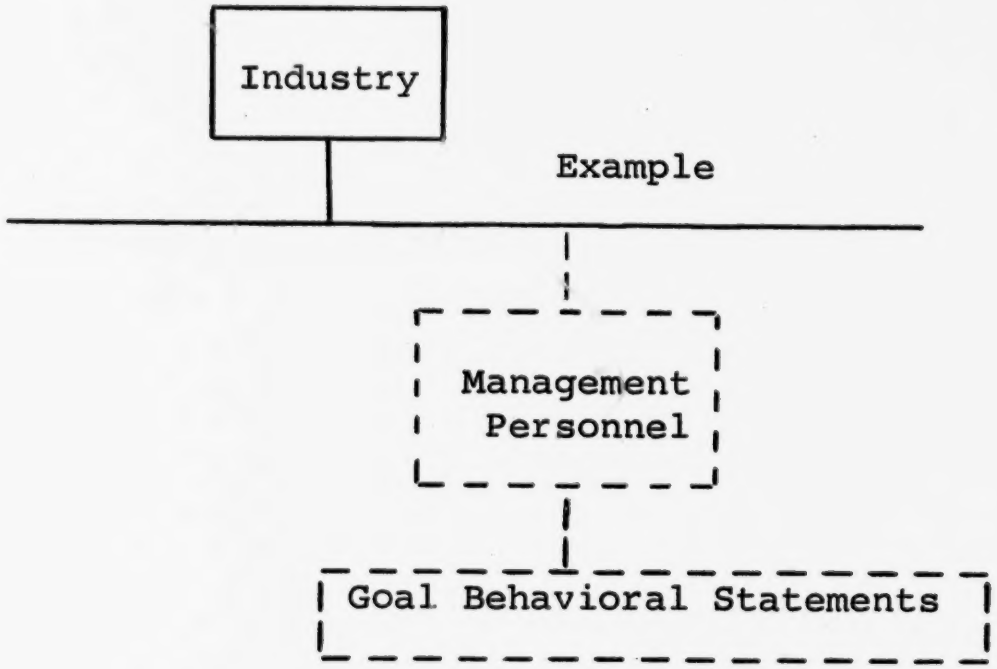
Phase II

ANALYSIS OF BEHAVIORS OR EXPERIENCES THAT RELATE TO THE ACCOMPLISHMENT OF THE GOALS



1. The student will construct a line and staff organization chart for use in a class group study of a major industry.
2. The student will compare different forms of personnel or production organization charts.
3. The student will use an organization chart in the directing of a line production experience or major industry study.
4. The student will describe the organization (personnel, financial, production, etc.) of a particular contemporary industry.
5. The student will apply the principles of good organization in his leadership role in the class.
6. The student will develop a photographic display of the student personnel organization.
7. The student will carry out a management role in industry.
8. The student will solve problems related to the management of the student company.
9. The student will interact with others on a heirarchy of company positions from management to labor force.
10. Etc.

INDUSTRY - PERSONAL GOAL INTERACTION MODEL



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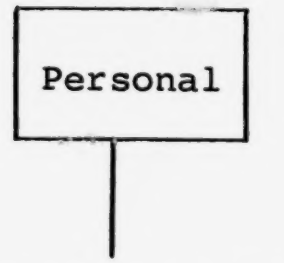


The areas of the personal goals are listed in this model purely to illustrate the interaction.

- Resourcefulness
- Physical-motor
- Social
- Aspiration
- Interest
- Self identity
- Self exploration
- Intellectual
- Skills (Manipulative)

6. The student will develop a photographic display of the student personnel organization.
7. The student will carry out a management role in industry.
8. The student will solve problems related to the management of the student company.
9. The student will interact with others on a heirarchy of company positions from management to labor force.
10. Etc.

It is important to note that in each case there was an action verb (solve, construct, compare, use, describe, apply) associated with the delineated statement of the objective. This was in each case an observable behavior.

A central point that must not be lost at this time is that there should be a number and variety of kinds of circumstances through which a general statement of goal could be interpreted.

It also should be stated that there could be a series of general goals that related to the matter of organization in contemporary industry. These would center about such aspects of organization as financial, personnel, production, conglomerate, diversified, corporate, geograhpical, etc. Each of these could be analyzed into a series of specific behavioral goals that would provide concrete and precise statements to give a more definitive direction to the program.

The statement of behavioral goals in some areas of study has been facilitated by the identification of a specific series of action verbs through which nearly all course goals could be stated. A curriculum group working with the American Association for the Advancement of Science has listed the following ten action verbs for the statement of behavioral goals in science:

identifying	describing
distinguishing	stating a rule
constructing	applying a rule
naming	demonstrating
ordering	interpreting

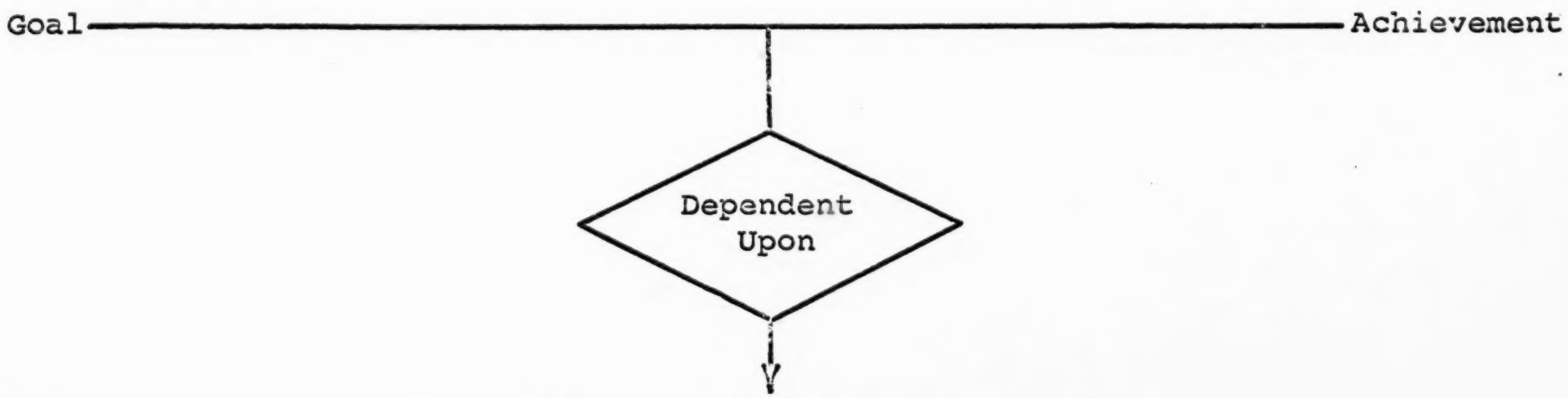
The suggested procedures for the Maryland Plan for Industrial Arts has not provided any such list, and has left the action verb selection up to the teacher as long as the basic principles of behavioral (observable action) goals are maintained.

The establishment of any set of goals would require a series of imperatives for the program.

The achievement of goals would be directly dependent upon --

1. The student must have the opportunity to develop the required behavior. This would involve many instances of opportunity.

Goal - Achievement and Opportunity Factors



1. Opportunity for Development of the required behavior.

2. Opportunity for development in keeping with the unique qualities of the student.

3. Opportunity for the student to demonstrate his growth or accomplishments.

2. The student should have many opportunities for development in ways that are in keeping with the unique qualities of the student.
3. The student should have many opportunities to demonstrate his growth or accomplishments.

Of course, from the evaluation and guidance point of view, the teacher should and must have the opportunity to observe the student's growth or accomplishments. This is a crucial point that will be mentioned later.

Phase III in the development of the Maryland Plan is perhaps the point of greatest significance. It was at this point where the speculated and analyzed behaviors were integrated and re-cast in a living-learning involvement with the content of Industrial Arts.

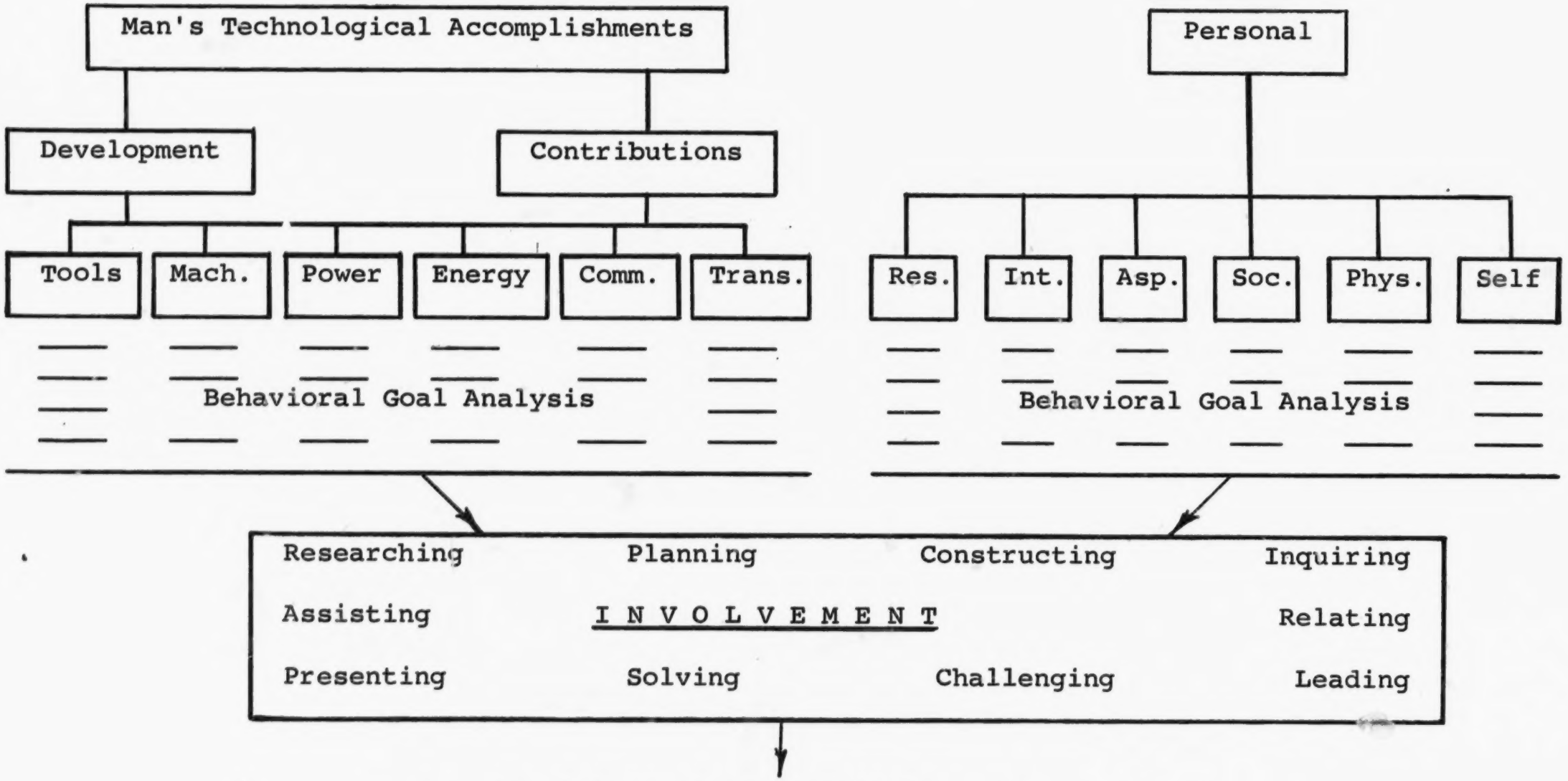
The involvement strategies drew upon the sociological, psychological, philosophical, factors as well as strong direction from recent statements of curriculum trends. The resultant was the following eighth and ninth grade program.

Eighth Grade:

> The study of contemporary industry through a line production experience.

Phase III

THE DEVELOPMENT OF A MEANINGFUL INTEGRATION OF THE BEHAVIORS OR EXPERIENCES INTO A LIVING-LEARNING INVOLVEMENT WITH THE CURRICULUM CONTENT



1. The Development of Tools and Machines and Their Contribution to the Growth of Civilization.
2. The Development of Power and Energy and Their Contribution to the Growth of Civilization.
3. The Development of Communications and Transportation and Their Contribution to the Growth of Civilization.

Phase III

THE DEVELOPMENT OF A MEANINGFUL INTEGRATION OF THE BEHAVIORS OR EXPERIENCES INTO A LIVING-LEARNING INVOLVEMENT WITH THE CURRICULUM CONTENT

Industry

General Goal Areas

Org. | Mat. | Prod. | Proc. | Prob. | Occ. | Cont.

Behavioral Goal Analysis

Personal

General Goal Areas

Res. | Int. | Asp. | Soc. | Phys. | Self

Behavioral Goal Analysis

Role Playing | Constructing | Planning | Inquiring

Leading | I N V O L V E M E N T | Following

Solving | Relating | Designing | Evaluating

8th Grade

The study of contemporary industry through a line production experience

An in-depth study of a major basic industry (steel, lumber, plastics, etc.)

9th Grade

Contemporary Unit Study
Major Industry Study (Groups)
Research and Experimentation in Ind. Arts
Technical Emphasis (Group or Individual)
Line Production

An in-depth study of a major basic industry using the group project approach. (e.g. steel, aluminum, lumber, plastics, paper)

Ninth Grade:

A multiple-opportunity program involving --

Contemporary Unit Studies Dealing With Technology

Research and Experimentation in Industrial Arts

Advanced Line Production

Advanced Major Industry Studies (Group)

Technical Emphasis (Group or Individual)

The seventh grade program in its anthropological unit studies of tools and machines, power and energy, and communication and transportation was developed along the same "behavioral analysis" technique but towards different objectives.

The Maryland Plan through its separate phases has been for many years dedicated to three basic ideas in program planning. Each of these is aimed at the goal of providing a wide range and variety of opportunities for the student to become an active participant in the process of learning as well as have ample and diverse opportunities to demonstrate his accomplishments of projected outcomes.

1. Optimum learning is dependent upon the level and kind of involvement on the part of the student. It is the student's involvement and interaction with the area of study that is a center of focus. This involvement and interaction through designed experiences takes the form of testing, challenging, selecting, interpreting, constructing, manipulating, evaluating, and many more.

Recently in one of my classes where each student is required to engage in the process of problem solving as a principal activity, I asked a student to list for the class the kinds of actions or involvement he experienced in the solution of a particular problem. The following is a listing of actions indicated by the student:

trying things	speculating
inquiring	projecting
observing	constructing
evaluating	testing
recalling	innovating
choosing	substituting
planning	interpreting
applying	manipulating
discarding	concluding

generalizing

Each of these represents an act of behaving and each represents varying degrees of involvement.

Each of the phases or aspects of the Maryland Plan were structured to permit a broad range of involvement for each student in keeping with his unique talents and aspirations. Likewise the opportunity to behave in the performance of tasks appropriate to each level was an integral part of the plan.

The teaching of Industrial Arts through the Maryland Plan has stimulated a great deal of interest and concern about the degree to which educational processes stimulate or even permit student involvement and interaction with the content of an area. A student engaged in the study of a physical material might consult his class lecture notes or diligently wade through endless pages of descriptions involving such terms as "tensile", "elongation", "pliability", conductivity", "texture", or "hardness". On the other hand a much higher level of involvement could bring meaning to such words through experimenting, testing, observing, comparing, using, ordering, and generalizing in the pursuit of some meaningful endeavor requiring such activities.

Many broad and general topics that have traditionally been the province of verbal discussions can and must be moved to new dimensions of student experiencing and behaving.

Specifically, I am saying that many of the problems encountered in a student-structured and managed line producation activity approach the concreteness of those in the line at General Motors or the Ford Motor Company.

Quality control leaves its abstract symbolism and enters into the operations of specified standards carried out by gauges, instruments, tests and observation as students pursue life-like production processes in the study of the volume producing industries.

The concept of interchangeable parts leaves its abstraction behind on the printed page as the student gets involved in the quantity production of parts that eventually must fit with one or more other components.

No textbook or lecturing psychologist could transmit the meaning and impact of boredom (a major problem in industry) comparable to that which an individual might experience on a line production activity where he is required to endure a prolonged period of routine application.

The study of occupations gains new relevance and dimensions as the student gets involved in the role of a particular occupation and as he interacts with other occupational roles set up in the class.

The responsibilities and requirements of leadership take on new dimensions as one assumes such a position in a well designed group effort in the study of industry and technology.

A point of particular interest and curiosity to me has been the involvement-attitude that seems to prevail in most of education. It is an attitude of merely needing to attend, to sit and to be lectured to, or to passively endure the reports of his classmates, or to comply with assignments and requirements. Each of these is a product of attitude building over a period of years that stems from the lack of meaning, endless canned experiences, uninspired teachers, and programs without challenge.

Think if you will what would happen if the student from his earliest of schooling were stimulated, encouraged, and rewarded for his interaction with the content and principles of each area of the school. Think what would happen if the students took up the challenge of testing, verifying, relating, applying and interpreting the principles, content, and practices in every class or course. If one's education is to be more than a period of endurance or if it is a period of years for stockpiling the neatly packaged content of an educational system without ever so much as poking your finger through the wrapper to check on its substance, surely a new era of individual educational involvement is in order.

2. A second idea that is very much a part of the Maryland Plan is to bring life and reality into the Industrial Arts laboratory. This concept is directly linked to the development of behaviors and the stimulating of students to perform in meaningful and observable ways.

The circumstances may involve a class seminar, a board of director's meeting, the purchase of materials for a line production experience, investing in stock issued by the student-organized company, conducting a sales campaign, directing a group project or carrying out the functions of a personnel director. A major process for the development of people that has had wide acceptance by industry is the activity of "role playing". The reality of educational activities is greatly strengthened by effective role playing. It becomes an effective instrument or strategy that presents the display of behaviors in leading, following, challenging, designing, constructing, communicating, interpreting, evaluating, selecting, analyzing, and many more.

Let us examine just one of many kinds of role-playing instances that stem from an attempt to bring reality and life-like activity into the Industrial Arts program.

The specific role example is that of a safety director on either a major industry study (group project) or a line production experience. This is a reality-centered, life-like experience in the study of occupations. Please keep in mind every other student is involved in some other occupational role as would be appropriate in a well-structured personnel plan for either of the above activities.

The reality centered activities are divided into two categories -- primarily involvement and secondary involvement. The "primary involvement" is experienced by the student playing the role of the safety director, while the secondary involvement is experience by all of the other students in the organization as the safety director performs his role.

The chart on the following page depicts in detail the two different levels of involvement as each experiences a life-like reality -- centered approach to the study of occupations.

The life-like, reality-centered activities are many and varied, but they should be an integrated part of a student centered study.

It also is possible that such activities may involve the whole school as well as reach out into the community.

A Reality-Centered Study of Occupations
Primary and Secondary Student Involvement Aspects
(Example--The Safety Director)

Primary Involvement	Secondary Involvement
The student who performs in the role of a safety director --- -- directs the safety program -- draws up a safety program -- constructs safety record charts -- designs accident report forms -- interprets his role to other students -- studies the literature related to safety in industry -- contacts safety directors in industry for information -- analyzes safety problems and hazards in the laboratory -- leads by chairing the safety committee -- designs safety or protective guards or apparel -- posts or displays safety bulletins	The other students who come into contact with the program and activities of the safety director --- -- required to perform in a safe manner -- receives directions from the safety director -- may serve on a safety committee -- listens to reports by the safety director -- observes the safety director in action -- participates in safety discussions, field trips, etc.

3. The third point in this series relates to the concept of first-handed information as opposed to second - or third-handed information. It soon will be obvious that this point is directly related to the previous two points.

As an introduction to this point the following statement from Alfred North Whitehead appears appropriate.

> "...First-hand knowledge is the ultimate basis of intellectual life. To a large extent book-learning conveys second-hand information, and as such can never rise to the importance of immediate practice. Our goal is to see the immediate events of our lives as instances of our general ideas. What the learned world tends to offer is one second-hand scrap of information illustrating ideas derived from another second-hand scrap of information. The second-handedness of the learned world is the secret of its mediocrity. It is tame because it has never been scared by facts..." (1. p. 61)

The movement towards the first-handed experience demanded a new and drastically different role for the Industrial Arts program and the environment of the laboratory.

a. It became a place where young people were faced with decision making and the consequences of their conclusions.

b. It became a place where inter-personal relationships and functioning took on life-like proportions.

c. It became a place that put the direct actions and behavior of the individual in a primary role as opposed to the primary of second-handed information and the memorization of the past.

d. It was an attempt to have students behave in new and different dimensions.

The old vicious cycle of: --

1. the teacher demonstrates; --

2. the student role was to imitate the teacher's demonstration; -- and

3. the teacher evaluates the excellence or lack of excellence in imitation; --

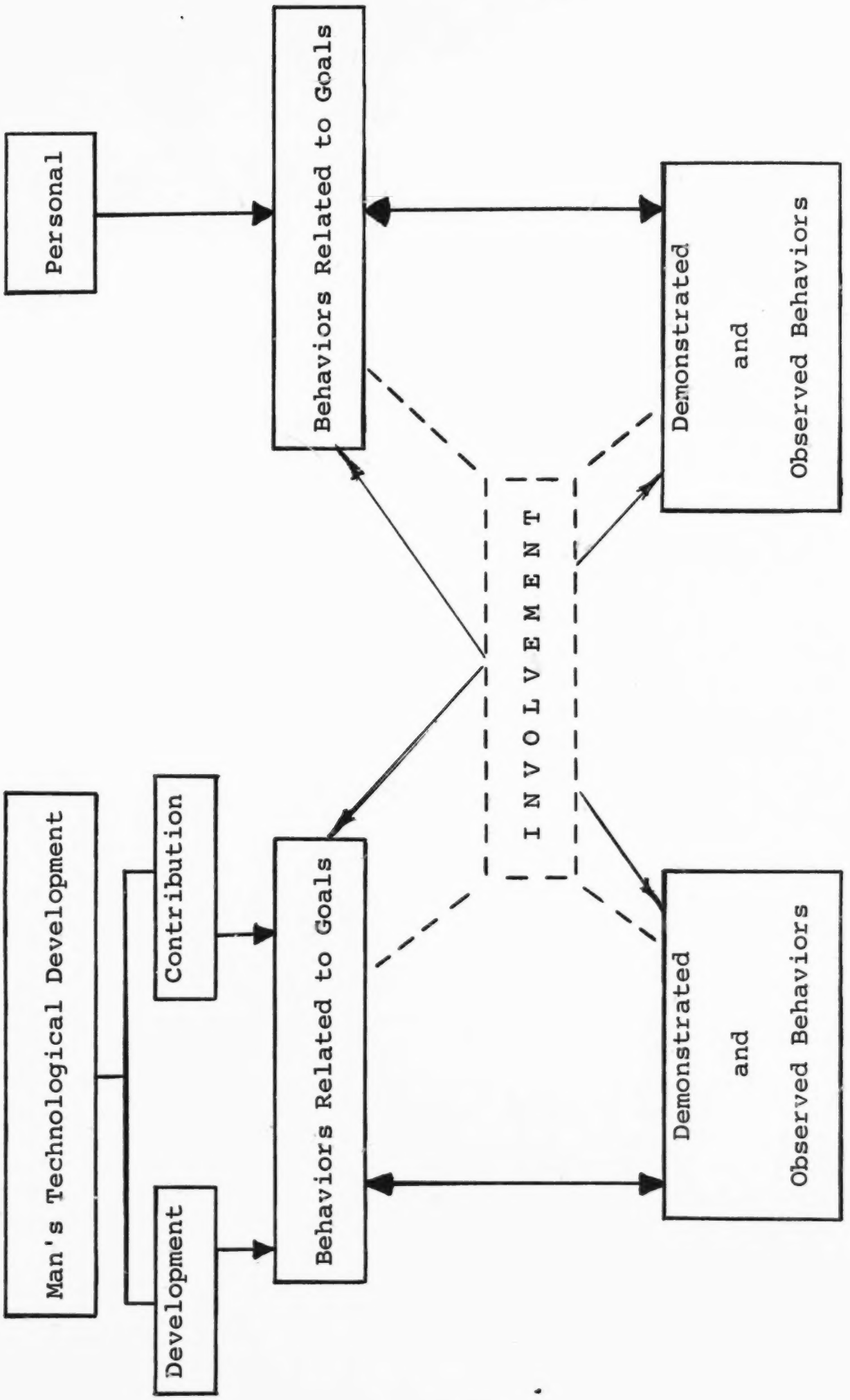
was a prime target for elimination by the Maryland Plan.

e. It became a place where inquiry, resourcefulness, leadership, and ingenuity were tested in the context of living-learning situations.

The fourth phase in the development of the Maryland Plan was to establish some system to determine the extent to which the goals were attained. This was accomplished by applying

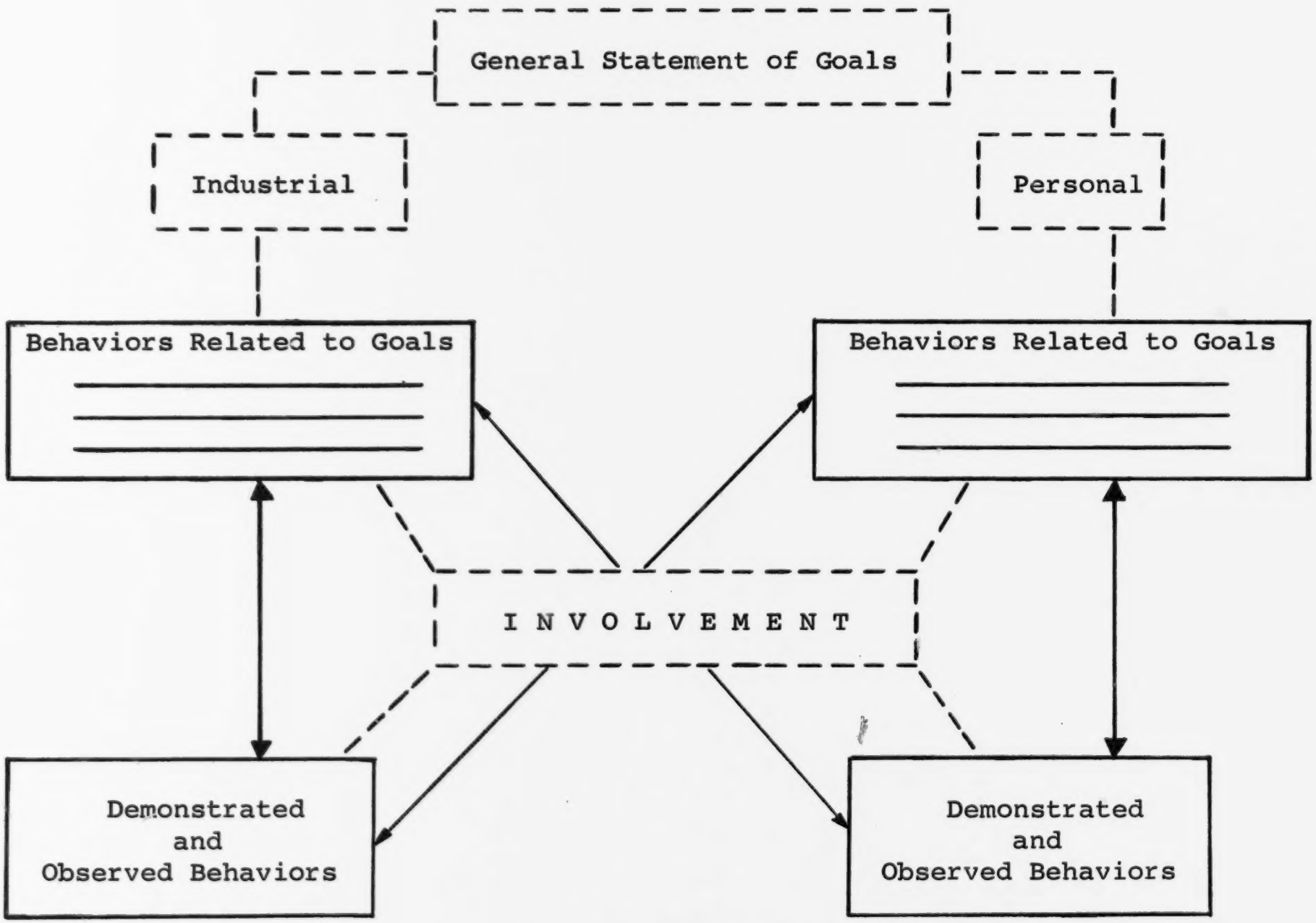
Phase IV

EVALUATION PROCESS TO DETERMINE THE ATTAINMENT OF GOALS



Phase IV

EVALUATION PROCESS TO DETERMINE THE ATTAINMENT OF GOALS


General Statement of Goals
Industrial
Personal
Behaviors Related to Goals
Behaviors Related to Goals
I N V O L V E M E N T
Demonstrated and Observed Behaviors
Demonstrated and Observed Behaviors

the "behavioral analysis" technique in a common wave-length with the earlier statement of goals.

The outcomes of an educational experience should reflect the attainment of the goals that established the direction for the course or program. There must be that one-to-one relationship between the two ends of the educational process. That is, the expected product was pretty well identified when the goals were established.

The problem that arises is one of evaluation. -- "When and how does one know when an educational objective has been accomplished or reached?"

This is when the old problem of ambiguity in goals would create its usual 'hang-up'. If the statements of goals included such terms as insights, appreciations, understandings, familiarity with, knowledge of, etc., when one comes to evaluation the big question becomes quite obvious.

When or how does one know that the student understands, --- that he has a knowledge of, --- that he appreciates? Our miraculous ingenuity with brain-wave sensing devices and electronic systems for scanning the accomplishment files in the human brain have nothing to offer in the solution. The answer

lies in what the student does that reflects the attainment of the objective. The only clue is overt human behavior and that is what the teacher must observe as well as attempt to evaluate its quality.

Now let us go back to the earlier general statement of a goal --

> "To develop the student's knowledge of and understanding about the organization of contemporary industry".

The evaluation would take its clues from the delineated behavioral goals that were stated in the second phase of the process.

Did the student in the range of his activities in the class actually - - -

- - identify different forms of organization,
- - interpret a corporate organization,
- - construct a line and staff organization chart,
- - compare different forms of personnel or production charts,
- - use an organization chart effectively,
- - describe the organization of a particular industry,
- - apply the principles of good organization,

- - etc.?

Each of the above represents a potential set of clues that reflect in some measure - -

- - - "the student's knowledge and or understanding about the organization of contemporary industry".

Again, it must be repeated that the behavioral clues identified above represent a small number of the total possible. These were given only as examples.

Furthermore, it must be emphasized that the accomplishment of the general statement of the goal does not require the student to be identified with every possible clue as set forth for a particular goal. There must be a sufficient number of opportunities for each student to demonstrate his attainment of the goal, and many of these will be in ways unique to him.

The opportunity for the student to demonstrate these behaviors may take the form of objective tests, essay tests, classrole responsibilities, assignments, student discussions, special projects, problem situations, etc.

However, it must be emphasized that if the evaluation is to be based upon observed behavior, the student may fail because

the evaluator has not been able to observe that which represented the individual's performance of the behavior related to the goal.

The following diagram titled "Goal-Program-Evaluation Model" is used to illustrate how the three components of goals, program, and projected outcomes are tied together. The simplicity of the leadership model is only for illustrative purposes in teaching the sequence of events contributing to the consolidated behavioral task analysis approach.

In conclusion, I am requesting a form of education that puts the student in a new role. He must move into the process of generation through involvement in concrete and meaningful ways.

The Industrial Arts laboratory and the total school must move away from its pre-occupation with - - -

the reading - - - recitation mode,

away from

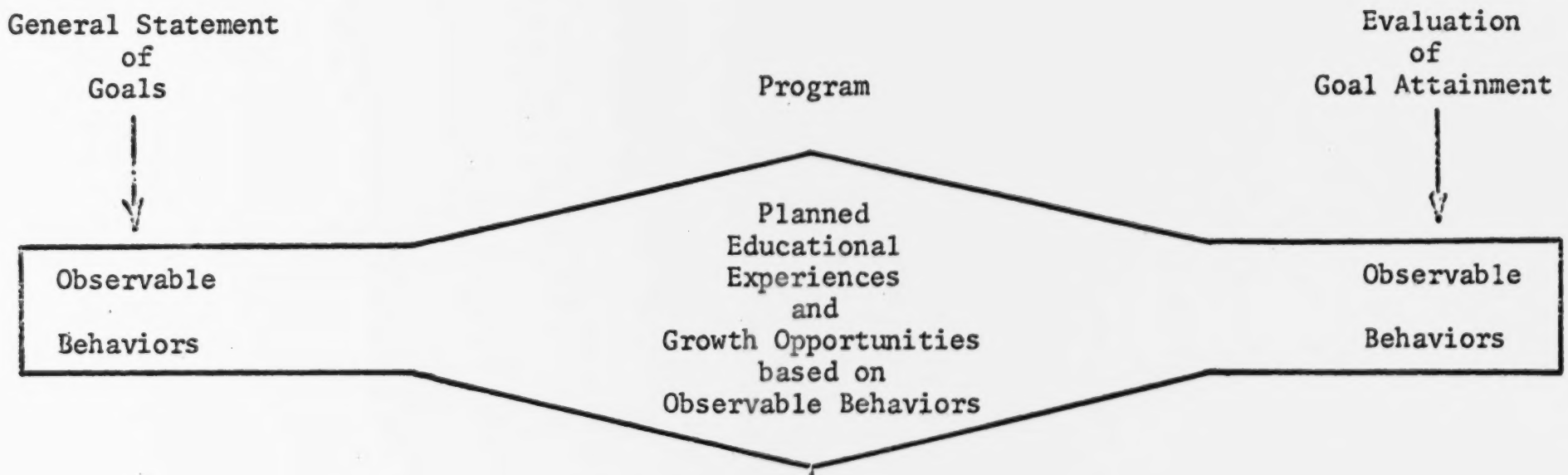
the lecture - - - listen mode,

and away from

the demonstration - - - imitation mode.

It must move into the arena of relevance with life itself through a concept of Education as learning through living.

Goal - Program - Evaluation Model



Example of the Model

Goal

To develop the leadership abilities of the individual

The student leads two or more groups effectively

Program

opportunities to --

--- lead a seminar
--- lead a discussion
--- lead a construction sub-group
--- lead a drafting and design team
--- lead a sales team

Evaluation

The student leads

--- a construction team effectively
--- a seminar effectively
--- a design team effectively

The inactive and passive role of the student characteristic of most educational programs is a basic factor in our ineffectiveness. It also provides a singular mode of instruction that fails to reach substantial segments of the school population. And finally, perhaps the failures of our schools might not reflect the inadequacies of human beings as it does more accurately reflect the individual's inability to handle an inappropriate educational system.

Literature Cited

1. Whitehead, Alfred North. The Aims of Education. New York: The MacMillan Company, 1952, p. 166.